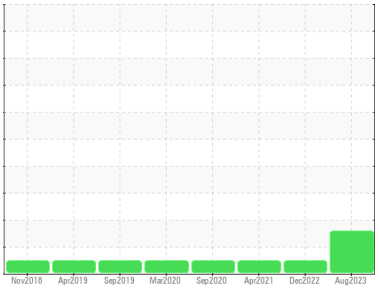
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Area
52000 series
Machine Id
Navistar 52753
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (40 LTR)

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is a moderate concentration of dirt present in the oil.

Fluid Condition
The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0837226**	WC0759708	WC0571153
Sample Date		Client Info		**19 Aug 2023**	19 Dec 2022	08 Apr 2021
Machine Age	mls	Client Info		**395432**	362324	265745
Oil Age	mls	Client Info		**33108**	34380	33352
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	0.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>90	**45**	30	30
Chromium	ppm	ASTM D5185(m)	>20	**2**	1	2
Nickel	ppm	ASTM D5185(m)	>2	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	<1	0
Silver	ppm	ASTM D5185(m)	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	**5**	5	4
Lead	ppm	ASTM D5185(m)	>40	**6**	5	5
Copper	ppm	ASTM D5185(m)	>330	**1**	1	2
Tin	ppm	ASTM D5185(m)	>15	**<1**	<1	<1
Antimony	ppm	ASTM D5185(m)		**0**	<1	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	2	**2**	4	7
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	**63**	62	61
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	**1023**	1003	980
Calcium	ppm	ASTM D5185(m)	1050	**1082**	1248	1119
Phosphorus	ppm	ASTM D5185(m)	995	**1071**	1111	972
Zinc	ppm	ASTM D5185(m)	1180	**1225**	1270	1279
Sulfur	ppm	ASTM D5185(m)	2600	**2443**	2572	2554
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

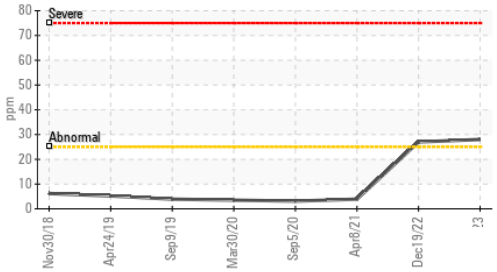
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	▲ **28**	27	4
Sodium	ppm	ASTM D5185(m)		**2**	2	2
Potassium	ppm	ASTM D5185(m)	>20	**5**	5	6

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**0.9**	0.6	0.6
Nitration	Abs/cm	ASTM D7624*	>20	**11.7**	12.2	11.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	**24.1**	24.8	23.3

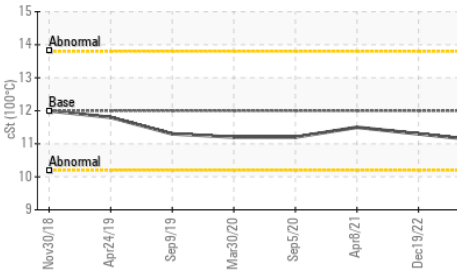
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**18.5**	20.1	19.3

OIL ANALYSIS REPORT

Silicon (ppm)



Viscosity @ 100°C

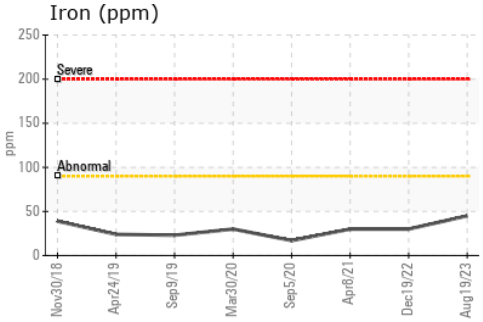


VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

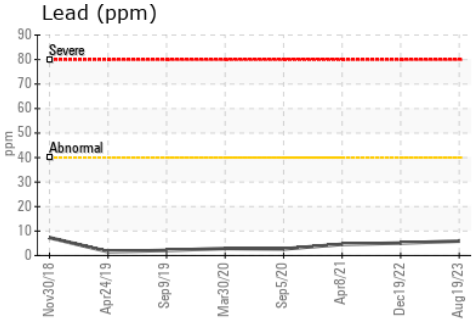
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	**11.1**	11.3	11.5

GRAPHS

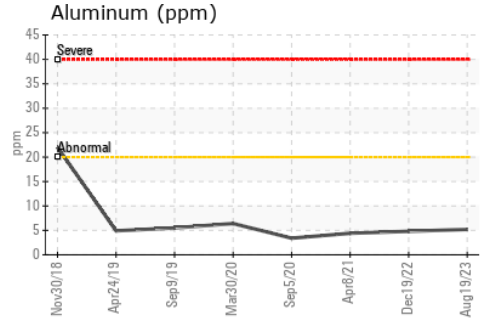
Iron (ppm)



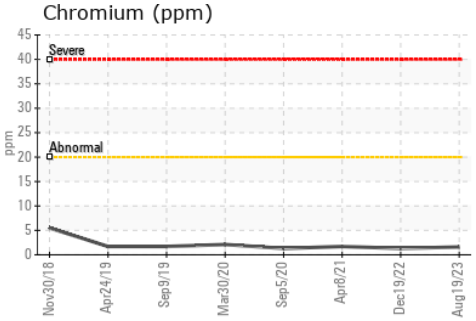
Lead (ppm)



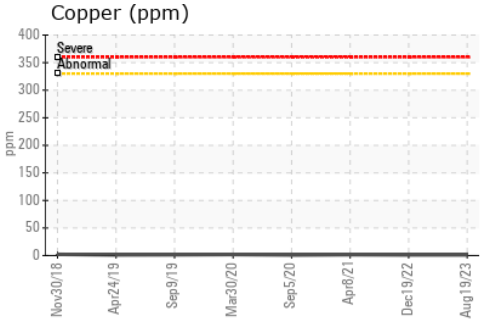
Aluminum (ppm)



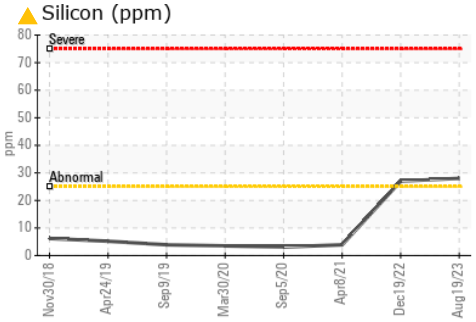
Chromium (ppm)



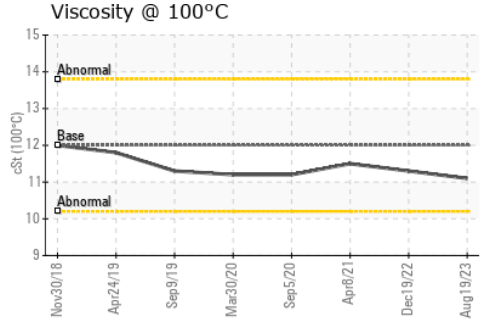
Copper (ppm)



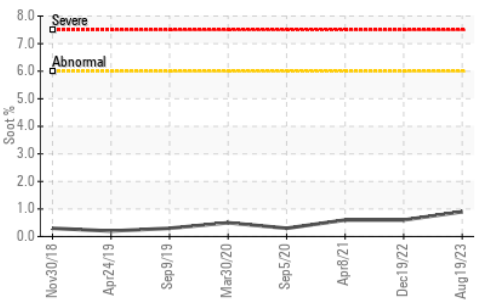
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **MANITOULIN TRANSPORT (GARAGE)**
Sample No. : WC0837226 **Received** : 22 Aug 2023 1335 SHAWSON DRIVE
Lab Number : 02577417 **Diagnosed** : 22 Aug 2023 MISSISSAUGA, ON
Unique Number : 5630477 **Diagnostician** : Kevin Marson CA L4W 1C4
Test Package : MOB 1 Contact: Travis Spence

To discuss this sample report, contact Customer Service at 1-800-268-2131. tspence@manitoulintransport.com
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T:
Validity of results and interpretation are based on the sample and information as supplied. F: (905)564-6361